

Roll No.....

Total no. of printed pages: [01]

Total No. of questions: [09]

B.Sc. (Hons.) AME (Semester-3rd)
ELECTRONICS FUNDAMENTAL AND DIGITAL TECHNIQUE-I
Sub code: BAME3-321
Paper ID: [20131114]

Time: 03 Hours

Maximum Marks: 60

Instruction for candidates:

1. Section A is compulsory. It consists of 10 parts of two marks each.
2. Section B consist of 5 questions of 5 marks each. The student has to attempt any 4 questions out of it.
3. Section C consist of 3 questions of 10 marks each. The student has to attempt any 2 questions.

Section A

(2 marks each)

Q1. Attempt the following:

- a. What is the difference between an ordinary diode and Zener diode?
- b. Why is full wave rectifier preferred to half wave rectifier?
- c. What is Dark resistance of photo diode?
- d. Define the relation between α and β .
- e. What are the three possible states of a transistor?
- f. What is thermal runaway?
- g. What are the two basic types of feedback?
- h. Obtain the 2's compliment of $(1010)_2$ and $(11010101)_2$
- i. Convert A92H to Octal and binary.
- j. What is meant by logic gates?

Section B

(5marks each)

- Q2. Explain the applications and working of Tunnel diode with characteristics.
- Q3. Explain the advantages and disadvantages of Integrated circuit.
- Q4. Explain the Numerical aperture and cone of acceptance of fibres.
- Q5. Write the characteristics of operational Amplifier.
- Q6. Explain the transistor as an amplifier.

Section C

(10 marks each)

- Q7. Explain the construction and working of Full wave bridge rectifier and centre tap rectifier. Also write advantages and disadvantages.
- Q8. Describe the types of Analog to digital conversions circuits.
- Q9. Explain the types of semiconductors and the formation of pn junction.